

which I have quoted the best and most recent above. And in his last paragraph he seems to have twisted my words to mean that the Continental belief in the existence of *scrophulariae* rests simply on larval differences. This I did not state, and that it is not so will appear from M. Boursin's revision referred to above; but it is true that Continental collectors find it easier to obtain the moth in the easily distinguished larval stage. The caterpillars of *verbasci* and *lychnitis* may be variable, as Mr Wightman points out, indeed, the latter is very variable; but that does not mean that a third species cannot be easily distinguished in the larval stage. Indeed, I believe that every member of the group (and there are quite a number) of which the larva is known can be easily distinguished as a caterpillar from every other member by students of the group, of whom Mr Wightman appears to consider himself one.

**ORIGINAL DESCRIPTIONS OF NEW FORMS OF PANAXIA
(CALLIMORPHA) DOMINULA, L., AND PANAXIA ROS-
SICA, KOLENATI.**

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(Plates to follow.)

[Extracted from the paper on these species published simultaneously with this issue of the *Ent. Record* as Part I of the *Proceedings of the South London Ent. and Nat. Hist. Soc.* on May 15th.]

Panaxia rossica, K., hitherto referred to in literature as a race of *Panaxia dominula*, is a good species differing from *dominula* in appearance and genitalia. Its range is limited to Southern Russia and Persia, etc.

ORIGINAL DESCRIPTIONS OF NEW FORMS OF PANAXIA DOMINULA.

ab. **nigradonna**, nov. ab.

ORIG. DESCIP.—The Italian ssp. *persona*, Hb., represents those insects with a moderate increase of black on the yellow hindwings in which there may be a ray-like pattern towards the base. Ab. *italica*, Standfuss, refers to the lighter examples. This leaves unnamed those examples with all four wings nearly black, to which the name of "*donna*" is frequently but inaccurately given, and to which the name of *nigradonna* may be applied. Type in Oberthür Collection.

ab. **subitalica**, nov. ab.

ORIG. DESCIP.—In Piedmont in North-West Italy, where ssp. *persona* and normal *dominula* overlap, individuals occur amongst typical red hindwing *dominula*, having the hindwings a clear yellow. Rocci states (*Atti. Soc. Ligust.*, Vol. 24, p. 189, 1913) that the forewings are normal and that the hindwings and body are yellow, unlike ssp. *persona*, in which the body is always black. Intermediates occur (ab. *intermedia*, Rocci), and are commoner than these yellow examples, which are rare. He incorrectly refers it to *rossica*.

ssp. **rhodanica**, nov. ssp.

FIG.—Plt. III, fig. 2.

ORIG. DESCRIP.—“ In Valais, Switzerland, along the valley of the Rhone there occurs a distinct race of red hindwinged *dominula* characterised by the following points:—

- (a) Forewings spots have the normal white replaced by bright yellow.
- (b) Diminution in size of forewing spots.
- (c) The insects are rather smaller than normal *dominula*, frequently markedly so.
- (d) Subapical spot small in size, often “ hooked ” as in ab. *basinigra*, Cockayne. Type in Oberthür Collection. (Figured.)

This race has hitherto been referred to as ssp. *bithynica*, Staudinger, from which it is entirely different both in size, facies, and distribution. Ssp. *bithynica* must be reserved for the race in Bithynia in Asia Minor.

ab. **privata**, nov. ab.

ORIG. DESCRIP.—The terminal cell spot of the forewing (the central spot) is entirely absent or reduced to a pin-point. (Adapted from *P. rossica* ab. *privata*, Sheljuzhko, a parallel ab.)

ab. **brunnescens**, nov. ab.

FIG.—Plt. II, fig. 9.

ORIG. DESCRIP.—“ *Forewings*: Normal markings. The basal cell spot and central spot are of very deep orange. On the left side of my type the central spot is split into two by the vein.

“ *Hindwings*: Normal black markings, but the whole of the ground colour with the exception of a narrow strip on the costa is an olive-brown, faintly tinged with pink. Between the discal spot and the anal angle this colour is somewhat accentuated by a smoky area, and in some examples this area alone is involved. Along the costa there is a narrow strip of wing with the normal red colour which runs distally as far as the outer angle. Abdomen bright red as in typical *dominula*, standing in contrast to the colour of the hindwings.” Bred. Type in my collection. (Figured.)

ab. **diluta**, nov. ab.

FIG.—Plt. II, fig. 4.

ORIG. DESCRIP.—“ *Forewings*: All spots much reduced in size. Basal cell spot small, with tendency to splitting. Central spot present as small horizontal streak. Subapical blotch represented by a thin vertical streak, hooked internally at its costal end as in ab. *basinigra*, Cockayne. The apical group is represented by two small dots.

“ *Hindwings*: Ground colour a clear pale pink, intermediate between red and yellow. Black markings normal in position, but heavy; in particular the discal spot at its lower end is hooked internally as in some cases of ab. *paucimacula*. Abdomen red.” Bred. Deal. 1937. Type in my collection. (Figured.)

ab. **illustris**, nov. ab.

FIG.—Plt. II, figs. 1-2.

ORIG. DESCRIP.—“ Ground colour of forewings ink-blue. In my type (fig. 1) the basal spots are separate and of normal size, but with somewhat irregular outline. In my paratype (fig. 2) they are large, confluent and pale. The central spot in each is very large, being separated from the basal cell spot by a narrow

line of ground colour. The subapical blotch merges indistinguishably into the greatly enlarged apical group of spots to form 'fingers' continuous with the blotch. The large spot at the inner angle merges with this area so that it, the subapical blotch, and the greatly enlarged apical spots, form a large irregular area of white, edged with yellow in its periphery, where it approximates to the ground colour. In my type the spot at the inner angle throws a tongue of white internally towards the lower basal spot.

"*Hindwings*: Ground colour a soft tomato pink. All normal black markings replaced by golden yellow with the exception of the discal spot, which in my type is black edged with yellow. In my paratype this also is all yellow with the exception of a small central black dot.

"Fringe black, with the exception of a small break opposite the yellow anal spot, where it is gold. Abdomen red." Type and paratype in my collection. (Figured.) Hampshire and Berkshire respectively. 1938.

ab. *ocellata*, nov. ab.

FIG.—Plt. II, fig. 5.

ORIG. DESCRIP.—"*Forewings*: The normal white markings are minutely bordered with yellow scales. The anal spot is pointed internally.

"*Hindwings*: Very pale red. All black markings ringed with yellow." Bred 1940. Hants. Type in my collection. (Figured.)

ab. *conjuncta*, nov. ab.

FIG.—Plt. II, fig. 12.

ORIG. DESCRIP.—"*Forewings*: Ground colour ink-blue. The basal spot of the discoidal cell and the central spot of the forewings are fused into one as in ab. *juncta*, Ckyne. It is a pale primrose yellow. This fusion is continued discally into a thin line running parallel with the costa, which joins the subapical blotch and which appears hooked internally where the line meets it. On the left side the subapical blotch is itself continued into the upper pair of apical spots, so that there is, in fact, continuity of pattern from the basal cell spot to the apicals.

"*Hindwings*: Pale pink. Black markings. Normal size, but dull." Hants, 1938. Bred. Type in my collection. (Figured.)

ab. *albomarginata*, nov. ab.

FIG.—Plt. II, fig. 13.

ORIG. DESCRIP.—"*Forewings*: The apical group of spots are greatly enlarged and striated. They fuse together, particularly the lower two, to form a large white band which is edged distally by the black fringe. There may also be an extra white spot beneath this between the apical fusion and the anal spot. This is present in the type of *albomarginata*.

"*Hindwings*: Bright red, with somewhat reduced black markings with no inclination to form yellow rings." Bred Hants, 1938. Type in my collection. (Figured.)

ab. *flavomarginata*, nov. ab.

FIG.—Plt. II, fig. 14.

ORIG. DESCRIP.—"The distribution of the apical markings of the forewings is increased as in ab. *albomarginata*, but all the normal white

markings are replaced by deep yellow as in ab. *crocea*, Schultz." Type in my collection. (Figured.) Kent. L. W. Newman. 1934.

ab. **decolorata**, nov. ab.

FIG.—Plt. II, fig. 11.

ORIG. DESCRIP.—“*Forewings*: The normal markings can be seen as through ground glass. The ground colour is itself pale so that differentiation between it and the markings is indistinct, and where they abut orange scales add to the blurring of the pattern.

“*Hindwings*: Ground colour an extremely light crimson, quite unlike the normal red ground colour. Normal black markings replaced by creamy brown. Abdomen red as in hindwings.” Bred A. Pitman, Wiltshire.

ab. **junctasuffusa**, nov. ab.

FIG.—Plt. II, fig. 10.

ORIG. DESCRIP.—“The specimen is asymmetrical. *Forewings*: The basal spot of the discoidal cell and the central spot of the forewings on both wings are fused as in ab. *juncta* and ab. *conjuncta*. The other basal spot is merged in a suffusion of yellow scales, which entirely obliterate the dark ground colour surrounding it, and which extends as far distally as the anal angle spot and the lower end of the subapical blotch. On the right forewing there is a yellow streak which is continued from the ‘*juncta*’ mark and runs into the subapical blotch parallel to the costa. Both subapical and apical spots, and to a lesser degree the spots at the anal angle, are, on this side, suffused with golden-yellow, particularly on the borders of these markings.

“*Hindwings*: Ground colour orange red. Right side has normal black markings. Left side has these markings practically obliterated by the superimposition of yellow scales.” Wicken Fen. F. Norgate. 1896.

ORIGINAL DESCRIPTIONS OF NEW FORMS OF PANAXIA ROSSICA.

ab. **flavoteberdina**, nov. ab. (*P. rossica*, Kolen. ssp. *teberdina*, Schel. FIG.—Plt. I, fig. 8.

ab. **rubroteberdina**, nov. ab.

FIG.—Plt. I, fig. 9.

ORIG. DESCRIP.—There are three forms of ssp. *teberdina*, Schel. Scheljuzhko stated (*Ent. Zeit. Frankfurt.*, Vol. 48, p. 73, 1934) that there was a race of *P. rossica* in the Teberda district of North Caucasus which differs from typical *P. rossica* in size and other points in which pale red, yellow, and intermediate forms occurred, only 12% of the race had yellow hindwings. The pale red forms were rare also. The intermediates, with orange-red hindwings, were the commonest, and he expressly stated that his type of ssp. *teberdina* referred to an intermediate. He wished to refer to the yellow examples as ab. *rossica* which of course is impossible. To avoid future confusion, yellow hindwinged examples of ssp. *teberdina* should be named *flavoteberdina*, and those with red hindwings *rubroteberdina*.

Type *flavoteberdina* (Figured). Teberda, 1933. Scheljuzhko. Tring Museum.

Type *rubroteberdina* (Figured). Teberda 1933. Scheljuzhko. Tring Museum.